

Introduction: Patent Blue V dye is routinely used in the UK for Sentinel Lymph node biopsy. However, it causes allergic reactions in (0.6–2.7%). The NEWSTART and ALMANAC studies have reported 1% incidence. The ABS guidelines 2009, recommends routine consenting for blue dye administration and allergic reactions.

Materials and Methods: We looked into 41 cases of WLE/Mastectomy with SLNB done over a 3 month period. All patients had 2ml of 2.5% PBV injected subareolarly.

Results: 50% were consented for administration, and only 50% had allergic responses mentioned. One patient had allergic reaction to blue dye manifesting as intraoperative hypotension requiring ephedrine. There were no delayed effects. Urticarial rashes, blue hives were seen in 3 patients but were self-limiting. A similar audit done at a regional tertiary centre, the consenting rates where 65% despite using pre-printed consent forms because pre-printed consent forms were not used in all patients.

Conclusion: Patent Blue dye injection is not without risks and therefore PBV administration and allergic responses to patent blue dye should routinely be mentioned in consent forms. Using pre-printed forms can improve the consenting rates, but it requires more awareness and persuasion among doctors.

0563: THE USE OF CHEST X-RAYS AS A ROUTINE STAGING INVESTIGATION FOR PATIENTS WITH INVASIVE BREAST CANCER – AN AUDIT OF CURRENT PRACTICE

Hollie Sapsford¹, Nick Abbott², ¹ Raigmore Hospital, NHS Highland, Highland, UK; ² Highland Breast Centre, NHS Highland, Highland, UK.

Aim: We investigated whether patients diagnosed with invasive breast cancer in NHS Highland received a CXR in line with local preoperative assessment guidelines.

Method: Data from all patients with invasive breast cancer diagnosed over a 6 month period were retrieved from a prospectively maintained database. Hospital notes and computer records identified if patients received a pre-operative CXR.

Performing CXRs in 95% was deemed an acceptable audit standard. Abnormal CXRs were identified and investigated in more detail.

Results: 111 Patients were diagnosed with invasive breast cancer.

Of the 98 patients who had surgery, 87 had a CXR (89%). Audit standard failed.

68 CXRs were normal, although metastatic disease was subsequently identified in 1 patient. 19 CXRs were abnormal, with 7 CXRs thought to be due to a metastatic cause.

0 metastases were found in these patients on other imaging modalities.

Conclusions: Routine preoperative CXRs were not being performed in accordance with local guidelines. Published national guidelines suggest CXRs are not indicated in asymptomatic patients with invasive breast cancer and clearly are not an effective tool in our population. Completing the audit loop was thought unhelpful as this local data has changed practice and helped suggest a more effective staging strategy.

0565: CT OR NOT CT? HOW SHOULD WE LOOK FOR DISTANT METASTASES IN INVASIVE BREAST CANCER IN NHS HIGHLAND?

Hollie Sapsford¹, Nick Abbott², ¹ Raigmore Hospital, NHS Highland, Highland, UK; ² The Highland Breast Centre, NHS Highland, Highland, UK.

Aim: Invasive breast cancer can metastasize to distant organs. SIGN₍₁₎ Guidelines (84) suggest that no staging is required for T1–2 N0–1 tumours in asymptomatic women. We aimed to identify an effective strategy for staging investigations in NHS Highland.

Method: Data from all patients with invasive breast cancer diagnosed over a 6 month period were retrieved from a prospectively maintained database. Hospital notes and computer records identified staging investigations performed and the presence of confirmed metastases.

Results: 111 patients were diagnosed with invasive breast cancer. 98 had surgery. 5 were identified with asymptomatic metastases in the pre/peroperative period. 87 CXR were performed. 19 were abnormal. 0 metastases identified 28 nucleotide bone scans. 9 abnormal. 2 metastases. 22 Liver USS. 4 abnormal. 0 metastases. 20 CT scans. 13 abnormal. 3 metastases.

Conclusions: A low proportion of patients with metastases were identified. CT chest/abdomen/pelvis is now used as the primary staging investigation for asymptomatic metastases in patients with preoperative clinically bulky nodes, 4 nodes positive on post-operative histology and in

patients considered for reconstruction. Correlation with other screening modalities is used if results are equivocal.

References

(1) SIGN 84 Management of Breast Cancer in Women: A National Clinical Guideline. December 2005

0576: MALE BREAST CANCER AND THE ROLE OF GENETIC TESTING: SHOULD WE INTRODUCE SIMBA (SCREENING IN MALE BREAST CANCER)?

Simba. Mersey Research Group for Surgery (MeRGS), Mersey, UK.

Aims: To evaluate incidence of male breast cancer in Merseyside, assess the proportion of BRCA2 carriers and explore if there is a benefit of known male gene carriers being offered screening.

Method: Retrospective cohort study of 5 centres in Merseyside reviewing male patients with breast cancer identified between 01/01/2000 and 31/10/2012. Data collected on family history, BRCA gene testing, histology and treatment.

Results: Forty-five patients identified; median age 70years (range 37–93). All presented with a breast lump. Forty-one(91%) underwent mastectomy; 36(80%) had grade 2/3 disease; 100% were ER+. Fifteen(33%) had involved lymph-nodes and 10(22%) had lymphovascular invasion. All patients had anti-endocrine therapy, 6(13%) also underwent chemotherapy. Six(13%) had family history of breast cancer, 5(11%) had BRCA testing, with only one(2%) having a BRCA2 mutation. The 5 year survival rate was 62%(16/26). 36%(4/11) of recorded deaths were related to breast cancer.

Conclusions: Incidence of male breast cancer in Merseyside appears lower than national average. Findings suggest men have higher grade, ER+ tumours and are likely to undergo mastectomy. Only a small proportion underwent BRCA testing, raising the question should we be testing all male breast cancers? Further work is ongoing evaluating BRCA2 rate in Merseyside, in conjunction with Clinical Genetics.

0596: ASIT-MAMMARY FOLD PRIZE WINNER: CYTOKERATIN-19 (CK19) NEGATIVE BREAST CANCERS AND ONE-STEP NUCLEIC ACID AMPLIFICATION (OSNA): MUCH ADO ABOUT NOTHING?

Dionysios-Dennis Remoundos¹, Meera Joshi¹, Farid Ahmed¹, Yoon Chia², Giles Cunliffe^{1,2}, ¹ Department of Breast Surgery, Wycombe Hospital, High Wycombe, UK; ² Department of Pathology, Wycombe Hospital, High Wycombe, UK.

Background: Sentinel Node Biopsy is standard practice for staging the axilla, with OSNA more widely used in clinical practice. Nearly all breast cancers express CK19, and OSNA detects nodal metastasis by quantifying the levels of CK19 mRNA. Limited data exists on the true incidence of CK19-negative tumours. Hence, we investigated the expression of CK19 in our practice.

Methods: All new breast cancer patients in a single centre between May 2010 and May 2012 were identified retrospectively. The tumour details, including CK19 status, were retrieved from the pathology reports.

Results: 730 breast cancer patients were identified. 104 were excluded due to incomplete data or lack of CK19 immunohistochemical (IHC) staining. Details from 626 patients were analysed. 16 tumours were CK19-negative (2.6%). The CK19 status was independent of the tumour histological and hormone profiles. The median age of CK19-negative patients was older than CK19-positive patients (76 vs 62 respectively).

Conclusions: This is one of the largest series looking at CK19-negative tumours. As they are rare, routine testing prior to OSNA may not be necessary. However, the exact correlation between CK19 expression by IHC and the OSNA results remains uncertain. Studies investigating the presence or absence of CK19 mRNA may be more appropriate.

0655: VTE PROPHYLAXIS FOR BREAST SURGERY; A PROSPECTIVE AUDIT

Miriam Thake, Sheila Shokuhi, Monika Kaushik. Department of Breast and Oncoplastic Surgery, Glenfield Hospital, University Hospitals of Leicester, Leicester, UK.

Introduction: Each year approximately 25,000 people die from veno-thrombotic events, 25 times the number that die from MRSA infection. There is no consensus in the timing and dose of prophylactic LMWH in patients undergoing breast surgery. The incidence of VTE in breast surgery has been shown to be approximately 0.03%.

Aim: To compare the current practice of thromboprophylaxis for patients undergoing breast surgery with the University Hospitals of Leicester (UHL) protocol and NICE guidelines to standardise practice.

Methods: All patients (n=101) undergoing breast surgery in November 2012 were prospectively audited. The dose, timing and appropriateness of LMWH administration were reviewed and compared to the UHL protocol.

Results: 100/101 patients received LMWH with 95% of patients receiving 2500 units and 94% receiving LMWH pre-operatively. Furthermore 7% of patients received LMWH despite it not being indicated.

Conclusions: The current practice is not standardised and a proportion of patients (7%) were over-treated. There are no published RCTs concerning the appropriate timing or dose of LMWH for general surgery and none concerning the use of VTE prophylaxis for breast surgery specifically. The incidence of VTEs or haematomas/haemorrhage is extremely low so large scale trials would be required to provide statistically significant evidence.

0700: CLINIC LETTERS; HOW WELL ARE WE COMMUNICATING?

Yoon Jung Lee, Jayne Robinson, Alison Waghorn. *Royal Liverpool University Hospital, Liverpool, Mersey, UK.*

Introduction: Clinic letters are important for communication between healthcare professionals and patients. Department of Health guideline indicates that all patients should receive their clinic letters, but with the content adjusted. This audit aimed to assess the compliance to the DoH guideline and highlight the variations between the letters.

Method: There were 18 clinics from six consultants each week. Clinic letters for ten randomly selected patients from each clinic between 09/05/12 and 18/05/12 were obtained, including additional referrals. In total, 141 clinic letters were analysed for primary and additional recipients, and contents.

Results: 51% of the clinic letters were sent to the patients, 26% of which were achieved by two consultants who primarily addressed to the patients. Only one letter stated the patient opting out. 46% were in a mix of freeform and pro-forma while the rest were in freeform. Collectively, 90% of the letters included clinical presentation with 82% indicating the working diagnosis but there was a variation between the consultants and clinics.

Conclusion: Currently, the department is not fully complying with the DoH guideline and should endeavour to improve this. A uniform pro-forma with additional freeform is also recommended to ensure all important clinical information is included.

0738: LIPOMODELLING GUIDELINE AUDIT

Philippa Jefferson, Charlotte Ives, Douglas Ferguson. *Royal Devon and Exeter Hospital, Exeter, UK.*

Aim: To audit previous practice against the ABS breast lipomodelling guidelines.

Methods: A retrospective case note review October 2007 until December 2012

Results: 104 procedures, 72 female, 3 male, age 19 to 72 years. 85.33% following breast cancer surgery. Guidelines suggest patients be:- Discussed at multidisciplinary meeting with up to date imaging: 7.81% had MDT recorded within a year of lipomodelling. Five had imaging within a year of surgery. Non-smokers: 18.66% were smokers at time of procedure. At least 12 months from radiotherapy: of 38 patients who had radiotherapy (50.66%) five (13.16%) had lipomodelling within a year. Followed up early, 3 months & 1 year: No clear protocol for follow-up identified. Given donor site adrenaline infiltration: Adrenaline documented in 72% cases. Guidelines suggest complication rates of: Fat necrosis between 3–15%: 4.8% in the study; Infections between 0.6–1.1%: 0.96% in the study; No recurrent breast cancer in patients undergoing lipomodelling was identified.

Conclusion: Lipomodelling appears safe with acceptable complication rates. The ABS/BAPRAS guidelines on safe practice for lipomodelling were available after most cases had been performed. Breast cancer cases should be discussed in MDT prior to lipofilling.

0754: THE ROLE OF AXILLARY CLEARANCE FOLLOWING SENTINEL LYMPH NODE BIOPSY IN BREAST CONSERVING SURGERY

James Warbrick-Smith, Ajay Sahu. *North Bristol NHS Trust, Bristol, UK.*

Introduction: Current standards of care for clinically node-negative breast cancer patients undergoing breast conserving surgery dictate that these women are offered sentinel lymph node biopsy (SLNB) which, if positive, is followed by axillary lymph node clearance (ALNC). Recent trial evidence

from Z-0011 and NSABP-B32 suggests that progression to ALNC for some of these women may be unnecessary. We audited the results of a single surgeon over 1 year to establish support for this paradigm shift.

Methods: We retrospectively audited pathology reports for women undergoing breast conserving surgery and SLNB followed by ALNC during 2010 at our Trust.

Results: 100 women underwent SLNB during the study period, of which 17 were positive and proceeded to ALNC. There was one case of false negative SLNB. Of the true positive SLNB patients, ALNC revealed nil further involved nodes in 7 cases (41%), and only 1 further involved node in 4 cases (24%). In only three cases was level III disease encountered.

Conclusions: In 41% of our cases SLNB itself was effectively therapeutic for local disease control, and thus ALNC may have been unnecessary. Further work is required to identify which women may be able to avoid completion lymphadenectomy.

0797: INTRAOPERATIVE INJECTION OF RADIOISOTOPE IS EFFECTIVE IN THE DETECTION OF SENTINEL LYMPH NODES IN BREAST CANCER

Jeremy Lynch, Ramesh Chandrabhan-Singh, Richard Sainsbury. *St Mary's Hospital, Isle of Wight, UK.*

Introduction: The intraoperative identification of the sentinel lymph node (SLN) in breast cancer surgery has been critical to reducing the morbidity of this operation. The gold standard involves the combined subareolar injection of blue dye and radioisotope. This is conventionally given before induction of anaesthesia whilst the patient is awake, which can be painful and cause anxiety. We hypothesized the injection can be delivered after induction of anaesthesia without reducing its reliability for identification of the SLN.

Methods: Patients with breast cancer undergoing SLN biopsy from September 2011 – September 2012 underwent intradermal subareolar injection of Tc-99 radioisotope and blue dye immediately after induction of general anaesthesia.

Results: 70 patients were included with a median age of 64 years. There was 1 failed localisation. The mean SLNs retrieved per patient was 1.61, and the mean time to localisation was 21.6 minutes. The negative predictive was 91.8% and the specificity was 96.6%.

Conclusion: Injection of radioisotope and blue dye after induction of anaesthesia reduces pain and still allows reliable identification of the SLN.

0857: RANDOM FORESTS: THE NEW GENERATION OF MACHINE LEARNING ALGORITHMS TO PREDICT SURVIVAL IN BREAST CANCER

Asmaa Al-Allak, Gianfilippo Bertelli, Paul Lewis. *Swansea University, Swansea, UK.*

Aims: With the advent of computer technologies new 'machine learning' algorithms (ML) have been developed that employ a variety of statistical, probabilistic and optimisation tools to 'learn' and predict outcomes. The aim of our study was to apply such an algorithm to predict survival in breast cancer and compare its performance to traditional statistical methods.

Methods: The Surveillance Epidemiology and End Results (SEER) and a UK data base from South Wales were used to generate predictive models based on a number of predictive factors. Random Forests (RF) was selected as the ML method and logistic regression (LR) as the traditional method. Model performance was estimated using sensitivity, specificity, precision and accuracy.

Results: the table below summarises the results

	Sensitivity (%)	Specificity (%)	Precision (%)	Accuracy (%)
RF				
LR				
UK data	89.35	83	84.14	86.18
SEER data	75.3	72.4	73.2	73.8
UK data	73.4	66.83	69.04	70.12
SEER data	73.44	66	68	70

Conclusions: We have shown that new ML algorithms can outperform the traditional statistical methods that have in the past been used to generate tools that predict survival. These new methods can offer a viable alternative to generate more accurate predictive models with the potential of improving patient outcomes.